

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
11 August 2005 (11.08.2005)

PCT

(10) International Publication Number  
**WO 2005/073712 A1**

(51) International Patent Classification<sup>7</sup>: **G01N 30/72**,  
B01D 15/08

(21) International Application Number:  
PCT/SE2005/000085

(22) International Filing Date: 26 January 2005 (26.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0400197-0 29 January 2004 (29.01.2004) SE

(71) Applicant (for all designated States except US): **AMERSHAM BIOSCIENCES AB** [SE/SE]; Björkgatan 30, S-751 84 Uppsala (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **AXELMAN, Johan** [SE/SE]; Amersham Biosciences, Björkgatan 30, S-751 84 Uppsala (SE). **LJUNGLÖF, Anders** [SE/SE]; Amersham Biosciences AB, Björkgatan 30, S-751 84 Uppsala (SE).

(74) Agents: **ALDENBÄCK, Ulla** et al.; Amersham Biosciences AB, Patents Dept., Björkgatan 30, S-751 84 Uppsala (SE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

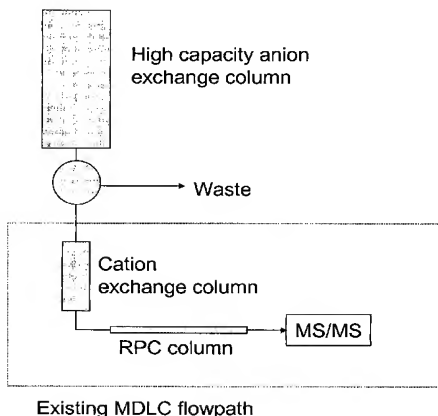
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: METHOD AND SYSTEM FOR REDUCING TOTAL SAMPLE COMPLEXITY



(57) Abstract: A method for reducing total sample complexity in native or digested biological sample(s), before analysis thereof by mass spectrometry, comprising the following steps: a) selecting a fraction from the entire native or digested biological sample(s) on the basis of pI-value, said fraction comprising native or digested sample representing a subset of or the entire substance population in the sample, said fraction being obtained by e.g. anion exchange chromatography, isoelectric focussing or chromatofocussing; b) separating native or digested sample substances from each other, wherein said separation is by cation exchange chromatography; and c) analysing said substances by mass spectrometry. The invention also relates to a system for reducing total sample complexity in the above method, comprising a high capacity charge-selective column (anion exchange, isoelectric focussing or chromatofocussing) coupled to a MDLC work flow path comprising a cation exchange column and a RPC column. The system is followed by a MS/MS instrument.

WO 2005/073712 A1



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*